

REMARKS

Claims 49-67 are pending and at issue in the present application. In view of the following remarks, reconsideration and allowance of all claims are respectfully requested.

In the present Office action, the Examiner rejects the claims under 35 U.S.C. 112, first paragraph, "for failing to contain a specification that contains a written description of the invention that enables a person skilled in the art to make and use it." In support of this conclusion, the Examiner notes a statement made by Applicant in a "Response to the Office action dated June 6, 2001," in which Applicant stated:

The applicant is unsure how the examiner is lead [sic] to believe that the surface geometry is exclusively on the outside of the shaft because this language is clearly not present in claim 29 and a brief review of the drawings of the case reveals that the surface geometry could either be a compartment in the shaft as shown in FIGS. 4-6 or could be on the outside of the shaft as shown in FIGS. 1-3. The limitations recited in claim 29 are intended to cover at least the configurations shown in the drawings."

Based on this statement, the Examiner propounds a series of questions and requires "that applicant *answer each question* that has been asked." (emphasis in original) The questions are directed to whether certain figures provide support for specific claim language, whether an illustrated embodiment will work, whether figures illustrating one of the embodiments are inconsistent, and whether the written description provides support for specific claim language.

As an initial matter, Applicant disagrees with the Examiner's interpretation and use of the above quoted statement from Applicant's "Response to the Office action dated June 6, 2001." To understand the point being raised, a review of the context in which the statement was made is instructive. In the Office action dated June 6, 2001, the Examiner rejected claim 29 as indefinite for reciting "a motor shaft having a first surface geometry" because, according to the Examiner, the claim "does not specify where the surface is." The Examiner

then opined that, "One is led to believe it is on the outside of the shaft." In response, Applicant noted that the location of the surface is not important, but rather that the first and second surface geometries engages one another. Furthermore, with regard to the Examiner's opinion that the surface is likely on the outside of the shaft, Applicant responded as noted above by noting that the claim as presented was not so limited. Instead, it was pointed out that the application shows many embodiments, some of which show a motor shaft with an engaging surface geometry on the outside (i.e., Figs. 1-3), while others show a motor shaft with an engaging surface on the inside (Figs. 4-6). Accordingly, Applicant's comments with respect to the figures were made solely with respect to the disclosure of alternative locations for the surface geometry of the motor shaft. As noted more fully below, such specific support is not necessary to show that the claims currently on file meet the written description and enablement requirements of 35 U.S.C. 112, first paragraph. In any event, the Office action mischaracterizes Applicant's previous comments as asserting that Figs. 1-3 provide specific support for the current claim language. This is simply incorrect and irrelevant to the written description or enablement requirements.

Returning to the language of the rejection under 35 U.S.C. 112, first paragraph, it is unclear as to the exact rejection being asserted by the Examiner. While the Examiner quotes the first paragraph of 35 U.S.C. 112 in its entirety, it is well settled that there are three separate and distinct requirements articulated in this section of the statute, which are: (A) written description; (B) enablement; and (C) best mode. In paraphrasing the statute, the Examiner asserts that the claims are rejected, "...for failing to contain a specification that contains a written description of the invention that enables a person skilled in the art to make and use it." It is possible, therefore, that the Examiner is asserting both written description and enablement rejections.

As a general response, Applicants traverse the rejections under 35 U.S.C. 112, first paragraph, for failing to properly state a *prima facie* case under the written description and enablement requirements. As set forth in the MPEP Section 2163.04 for written description and Section 2164.04 for enablement, the burden is clearly on the Examiner to show that these requirements have not been met. To do so, the MPEP sets forth guidelines, based on case law, to assist the Examiner in determining whether the requirements are met. With respect to the written description requirement, the MPEP Section 2163.04 states that the Examiner "must set forth express findings of fact which support the lack of written description conclusion" which should "...identify the claim limitation at issue" and provide "reasons why a person skilled in the art at the time the application was filed would not have recognized that the inventor was in possession of the invention as claimed in view of the disclosure of the application as filed." With regard to the enablement requirement, the MPEP Section 2164.04 states that as a minimum, the Examiner must "give reasons for the uncertainty of the enablement." The Examiner's comments should, "...focus on those factors, reasons, and evidence that lead the examiner to conclude that the specification fails to teach how to make and use the claimed invention without undue experimentation, or that the scope of any enablement provided to one skilled in the art is not commensurate with the scope of protection sought by the claims."

Rather than follow these guidelines, the Office action fails to properly identify the claim language to which the rejections are asserted, fails set forth express findings of fact that support the written description or enablement conclusion, and fails to apply the proper standards of written description and enablement as required under the case law. In each of the specific rejections, the Examiner either fails to identify claim language to which the rejection is directed or mischaracterizes the allegedly offending claim language.

Furthermore, by propounding a series of questions to the Applicants, the Examiner has obfuscated his findings of fact, if any. Finally, and most importantly, at no point does the Office action state, let alone apply, the well-settled standards for determining whether the written description or enablement requirements are met. Before addressing the specific rejections, a brief review of these standards is provided below.

The written description requirement of 35 U.S.C. 112, first paragraph, requires a "written description" of the invention. One standard for determining compliance with the written description requirement is set forth in MPEP Section 2163.02, which is, "does the description clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed." Quoting In re Gosteli, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989). The fundamental factual inquiry is whether the specification "conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed." Vas-Cath, Inc. v. Mahurkar, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991). It is important to note that the specification need not reproduce the exact language of the claims to satisfy this requirement. In re Wright, 9 USPQ2d 1649, 1651 (Fed. Cir. 1989) ("the claimed subject matter need not be described in haec verba in the specification in order for that specification to satisfy the description requirement"). The written description requirement of 35 U.S.C. 112 can be satisfied based solely on the drawings of a patent application. Vas-Cath, 19 USPQ2d at 1118.

Turning to enablement, 35 U.S.C. 112, first paragraph, requires that the specification describe how to make and use the invention. The standard for determining whether the specification meets the enablement requirement was articulated by the Supreme Court in Mineral Separation v. Hyde, 242 U.S. 261, 270 (1916), which presented the issue as whether experimentation needed to practice the invention was undue or unreasonable. See also, In re

Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). Stated another way, the test of enablement "...is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation." United States v. Telecommunications, Inc., 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988). Importantly, a patent need not teach, and preferably omits, what is well known in the art. In re Buchner, 929 F.2d 660, 661, 18 USPQ2d 1331, 1332 (Fed. Cir. 1991).

The test of enablement is not whether any experimentation is necessary, but whether, if experimentation is necessary, is it undue. In re Angstadt, 537 F.2d 498, 504, 190 USPQ 214, 219 (CCPA 1976). In determining whether experimentation is undue, the following factors are to be considered: (A) The breadth of the claims; (B) The nature of the invention; (C) The state of the prior art; (D) The level of one of ordinary skill; (E) The level of predictability in the art; (F) The amount of direction provided by the inventor; (G) The existence of working examples; and (H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure. In re Wands, 858 F.2d at 737, 8 USPQ2d at 1404. The examiner's analysis must consider all of the evidence related to each of these factors, and any conclusion of nonenablement must be based on the evidence as a whole. Id. 858 F.2d at 740, 8 USPQ2d at 1407.

With the foregoing standards in mind, Applicant generally traverses the written description and enablement rejections of claims 49-67 as failing to articulate *prima facie* cases for lack of written description or enablement. At no point does the Examiner rely on the standards established for determining written description or enablement rejections, let alone apply those standards to the claimed invention. In fact, a vast majority of the

Examiner's comments are entirely unrelated to the issues of written description or enablement. Accordingly, these rejections must be withdrawn.

Notwithstanding the inadequacies of the rejections as noted above, the current claims meet the standards of written description and enablement. In the following, Applicant will attempt to address the issues raised by the Examiner (as best understood) in the order presented in the Office action.

At paragraph 3, sub-section A, the Examiner asserts that "Claim 49 lacks support with respect to the different geometries claimed, no support being found in figure 4 and the written description." As an initial response, this rejection is improper for failing to properly characterize the claims, since at no point do they specify that the geometries are "different." Instead, the claims recite first and second surface geometries, without limiting those geometries to being different from one another. Accordingly, the rejection as stated by the Examiner fails to accurately reflect the subject matter of the claims, and must be withdrawn.

In addition, and as noted generally above, the Examiner fails to set forth express findings of fact supporting his conclusion of nonenablement or lack of written description. At no point are the standards for determining compliance with the written description and enablement requirements articulated, let alone applied. Still further, the rejection as stated by the Examiner appears to require support for the claim language in a specific figure (i.e., "figure 4") without looking at the application as a whole. *but if point us*

10X Despite the foregoing, the first and second surface geometries recited by the claims meet the written description and enablement requirements. With regard to the written description requirement, Applicants direct the Examiner's attention to Fig. 5 and its accompanying written description on page 9, lines 20-27 of the specification. Specifically, the specification describes the motor shaft 160 as being "machined to comprise a square

compartment for receiving a first end of a square shaft extension 165." The disclosed square compartment formed in the motor shaft inherently defines a "first surface geometry comprising a non-circular cross-section" as specified in claims 49-67. Similarly, the "square shaft extension" inherently defines "a second surface geometry comprising a non-circular cross-section" as specified in the claims. In view of the foregoing, the specification as filed conveys with reasonable clarity to those of skill in the art that Applicants were in possession of the invention now claimed.

With regard to enablement, Applicant submits that the first and second surface geometries are sufficiently described in the specification such that one of ordinary skill in the art would not require undue experimentation to make and use them. Again, at page 9, lines 20-27 and in Fig. 5, a motor assembly is described and illustrated having a first surface geometry having a non-circular cross section (i.e., the square compartment of the motor shaft) and a shaft extension having a second surface geometry having a non-circular cross section (i.e., shaft extension 165, which is described and illustrated as square). Accordingly, the first and second surface geometries as specified in the claims are specifically enabled by the specification and drawings.

Even if Applicant's disclosure was limited to the embodiments shown in Figs. 4-6, Applicant submits that the disclosure enables the skilled artisan to make and use both alternative locations of the surface geometries. One of ordinary skill in the motor assembly art would be well versed in mechanical connections used between shafts, including male/female connections. Furthermore, the motor assembly artisan would understand that the particular male and female connections may often be reversed. Accordingly, he would understand that a first shaft having a male connection that mates with a female connection of a second shaft may readily be reversed so that the first shaft has a female connection and the

second shaft a male connection. Accordingly, the disclosure in Fig. 5 of a first surface geometry located on the inside of the motor shaft not only enables the disclosed embodiment, but would also enable the reverse situation, where the first surface geometry is provided on an outside of the motor shaft. The above points were discussed in a telephone interview with the Examiner conducted on November 20, 2003, however specific agreement regarding the rejection was not reached.

At paragraph 3, sub-section B, the Examiner asserts his belief that the invention as shown in Fig. 4 would not work. Specifically, the Office action notes that a hex nut is threaded onto the motor shaft and queries how the hex nut can "rotate...with the shaft, as well as apply pressure to retain the washer, impeller, and spacer in place..." Applicant presumes that the theory posited in the Office action is that rotation of the motor shaft will cause the hex nut to loosen and unthread from the motor shaft.

As an initial response, Applicant is unsure as to what claim language the Examiner's observations are directed, since none is identified in the rejection. Consequently, the rejection as stated is incomplete and must be withdrawn.

Attempting to address this rejection on its merits, Applicant submits that the concerns regarding the retention of the hex nut as stated in the Office action are unfounded. Similar assemblies, where a nut is threaded onto a rotating shaft, are used in various types of components without threat of disassembly. For example, lawn mowers routinely secure the blade to a rotating shaft using a hex nut. Accordingly, Applicant does not understand the rejection as stated in the Office action with respect to the embodiment shown in Fig. 4.

During the November 20, 2003 telephone interview, Applicant's counsel discussed this ground of rejection with the Examiner. During the interview, the Examiner articulated a concern somewhat different from what was noted in the Office action. Specifically, the

Examiner believed that the figures appear to show a disc member that abuts the bottom of the hex nut (reference number 125 in Figs. 4 and 5 and item 170 in Fig. 6). Applicant's counsel stated that what appears to be a disc member was really the bottom end of the motor shaft, and noted that while the drawings could be improved, they were sufficiently clear such that they did not render the claimed invention inoperable. In particular, counsel for Applicant asserted that the threaded aperture of the hex nut 125, 170 could be sufficiently large to allow insertion over the bottom end of the motor shaft and still engage threads formed on the outside of the motor shaft. In any event, it is unclear whether any of this is relevant to the issues of written description or enablement, as it does not appear that the Examiner's observations are directed specific claim language. Accordingly, this ground of rejection must be withdrawn.

At paragraph 3, sub-section C, the Examiner asserts that Figures 1 and 2 are inconsistent. According to the Examiner, Fig. 1 shows washers 40, 50 sandwiched together, while Fig. 2 shows the impeller 45 sandwiched between washers 40, 50.

Again, as an initial response, the Examiner fails to identify the claim language to which this written description and/or enablement rejection is directed, and therefore a *prima facie* case has not been made. Applicant reminds the Examiner that it is the claims that define the invention, and therefore observations directed to the Figures are irrelevant without identifying the specific claim language that fails to meet the written description and enablement requirements.

In any event, Applicant notes that the Examiner mischaracterizes what is shown in Fig. 1. As shown in Fig. 1, an upper edge of the impeller 45 (i.e., the top-most line of the impeller, which is contacted by the lead line for reference numeral 45) is sandwiched between washers 40, 50. In describing what is shown in Fig. 1, the specification at page 5,

upper edge of the impeller 45
washer 40
washer 50
impeller 45
lead line for reference numeral 45

line 14, to page 6, line 7, clearly describes the order of assembly as installing the drive washer 40 onto the shaft 15, then installing the impeller 45 onto the shaft 15, and finally installing the second washer 50 onto the shaft 15. The drive washer 40 is described as having lugs and the impeller is said to have bores for accommodating the lugs. Accordingly, it is clear that the impeller 45 engages the drive washer 40, and that the second washer 50 is then inserted on the shaft over the impeller 45. Accordingly, Applicant disagrees with the Examiner's subjective interpretation of Fig. 1, and submits that Figs. 1 and 2 are consistent.

This rejection was specifically discussed in the November 20, 2003, telephone interview. During the interview, Applicants offered to submit a proposed drawing amendment for Fig. 1 to more clearly show the upper edge of the impeller being sandwiched between the drive and second washers. Accordingly, a substitute drawing sheet showing this amendment to Fig. 1 is submitted herewith that makes it clearer that Fig. 1 is consistent with Fig. 2 and what is described in the specification. In particular, the upper plate of the impeller 45 is drawn with a greater thickness in amended Fig. 1 so that it is clearer that it is sandwiched between the washers. The Examiner has acknowledged that Fig. 2 shows the impeller 45 sandwiched between the washers 40, 50, and therefore no new matter is submitted in amended Fig. 1.

At paragraph 3, sub-section D, the Examiner asserts that claim 49 "lacks support with respect to the different geometries claimed, no support being found with respect to figures 1 and 2 and the written description." This rejection is similar to that stated in sub-section A, however the Examiner appears to be requiring that Figs. 1 and 2 provide specific support for particular claim language. Applicant traverses this ground of rejection for the following reasons.

First, at no point does Applicant claim "different" geometries, as asserted by the Examiner. Applicant does recite first and second geometries, but has not restricted these geometries by requiring that they be "different." Accordingly, the Examiner's representation of the claims is incorrect and therefore the rejection must be withdrawn.

Second, there is no requirement that support for claim language must be found in each Figure. As noted above, Applicant has identified specific support in the specification for the claimed first and second surface geometries, namely Fig. 5 and the written description at page 9, lines 20-27. Accordingly, the Examiner's apparent basis for asserting this nonenablement rejection is entirely groundless.

Third, the Examiner fails to apply the proper standards for determining whether the written description or enablement requirements have been met. These standards are set forth in great detail above, and will not be reiterated here. Applicant notes, however, that the rejection as articulated in the Office action fails to make any reference to any of these standards or their associated determinative factors. Accordingly, the Examiner fails to state a *prima facie* case for lack of written description or nonenablement, and therefore the rejection must be withdrawn.

At paragraph 3, sub-section E, the Examiner asserts that the claims lack support in the written portion of the specification. Again, the Examiner appears to be requiring support for claim language in a specific portion of the application, this time from Figs. 1 and 2 and "page 6, lines 7+" of the specification. The Examiner refers to language in claim 49 specifying that the shaft extension engages the first surface geometry of the first end of the motor shaft. As noted above, Fig. 5 and page 9, lines 20-27 of the specification provide specific support for this claim language. In view of this clear support, the Examiner's observations and questions

regarding Figs. 1 and 2 and page 6 of the specification are moot. Accordingly, this ground of rejection should be withdrawn.

At paragraph 3, sub-section F, the Examiner opines that applicant "is referring to the embodiment shown in figure 4 for support for the claims, as claim 52 states "wherein the first surface geometry defines a compartment within the motor shaft." The Examiner continues by requesting that, "If applicant is relying on figure 1, then please show where there is support for the compartment in figure 1." Applicant traverses this ground of rejection.

First, applicant is unsure as to the basis, if any, for this rejection. It certainly does not appear to be a written description or nonenablement rejection, since the Examiner admits that Fig. 4 provides support for the claimed subject matter. Furthermore, applicant has identified specific support in the specification and drawings for this claim language. Accordingly, if the rejection is based on the written description or enablement requirements, it must be withdrawn.

Second, Applicant knows of no basis, statutory or otherwise, that obligates Applicant to identify how a specific Figure provides support for claim language, where that claim language is otherwise supported in the specification and other drawings. The Examiner has acknowledged that Fig. 4 appears to support the claim language identified in the Office action. Accordingly, there is no requirement that Applicant identify additional support for that language in another figure, namely Fig. 1. This sub-section of the Office action fails to articulate a coherent rejection, and therefore must be withdrawn.

Turning to the rejection on the art, the Examiner rejects 49, 52, 57, and 60 as obvious over U.S. Patent No. 6,254,349 to Haugen et al. The cited reference does not qualify as prior art, and therefore Applicant traverses this rejection.

Haugen et al. issued on December 31, 2002, from application serial no. 09/892,098 filed on June 26, 2001. Application serial no. 09/892,098 was a continuation in part of application serial no. 09/413,698 filed on October 6, 1999, which in turn claimed the benefit of provisional application no. 60/142,256 filed on July 2, 1999. Accordingly, the earliest possible effective date for this reference is July 2, 1999. The present application was filed on April 6, 1999, as a divisional of application serial no. 09/174,499 filed on October 16, 1998.

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Accordingly, not only does the actual filing date of this application predate the cited reference, it claims priority to a parent application filed over five months prior. Consequently, Haugen et al. does not qualify as prior art under 35 U.S.C. 102, and therefore the obviousness rejection must be withdrawn.

As a final point of note, Applicants submit herewith revised drawing sheets for Figs. 4 and 5. During the telephone interview of November 20, 2003, it was discussed whether the surface geometry of the motor shaft first end, and particularly the "compartment" as specifically recited in claims 52 and 65, was shown in the drawings. Applicants pointed to the specification at page 9, lines 20-27 and the hidden lines in the Figs. 4 and 5, which disclose a compartment. In amended Figs. 4 and 5, these hidden lines have been extended to the bottom edge of the motor shaft, and a reference line and numeral have been added in each figure. In addition, Applicants have amended the specification to specifically identify the compartment by the added reference numerals. These amendments to the drawings and specification do not include new matter.

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Att. clary
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In view of the foregoing, it is submitted that claims 49-67 are in good and proper form for allowance. A favorable action on the part of the Examiner is respectfully solicited.

If, in the opinion of the Examiner, a telephone conference would expedite prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

MARSHALL, GERSTEIN & BORUN LLP

By:

Brent E. Matthias
Brent E. Matthias, Reg. No. 41,974
Attorneys for Applicants
6300 Sears Tower
233 South Wacker Drive
Chicago, Illinois 60606-6402
(312) 474-6300

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